STUDYING GUILLEMOTS IN HUDSON STRAIT

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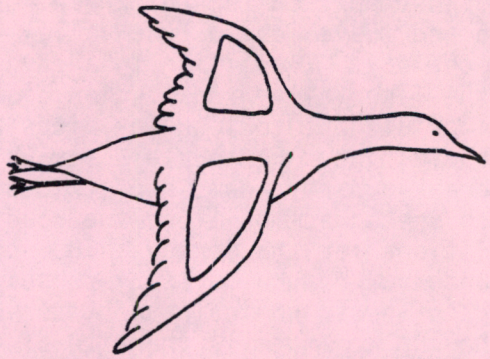

Many Natural History Society members will remember Sue Stephenson's talk last fall on her Willow Ptarmigan work with Kathy Martin at Laparousse Bay, Manitoba. After hearing this talk, I became enthusiastic about the idea of arctic research and mentioned this to Geoff Hogan. Geoff connected me with David Cairns, a Carleton University PhD student, researching Black Guillemots (*Cepphus grylle*) in Hudson's Strait. Subsequently I was hired as David's research assistant last summer.

Black Guillemots, sometimes known as "sea pigeons", are pigeon-sized birds closely related to puffins and to the extinct Great Auk (all three being members of the auk family, Alcidae). Guillemots breed from the Arctic Circle to Maine and may be seen along the coasts of PEI during the summer. Most people are familiar with their breeding plumage, black with white underwings, white upper wing patches, and bright red feet and mouth lining. Their winter plumage, mottled white with the white patches on black wings, is less familiar to most people since the birds scatter far out to sea during the winter (although some remain in the St. Lawrence seaway).

Just as sea turtles, seals, and whales reverted to a seafaring lifestyle from a terrestrial line of evolution, guillemots and other auks are almost entirely oceanic. Guillemots spend their entire lives at sea, coming to land only for a few months during the summer to raise their chicks. Their food is fish and invertebrates which they hunt by 'flying' under water. In fact, their wings are so specialized by reduction for swimming that the birds are only poor fliers. The Great Auk could not fly at all.

Guillemots nest under rocks and in crevices, where they hollow out a nest cup in gravel or sand. Laying begins in late June in Hudson's Strait (up to a month earlier farther south), with usually two but sometimes only one egg being laid. Incubation, commencing after the second egg, involves both parents and lasts for 30 days before the downy black chicks hatch, usually within a day of each other. Both parents share the chick-rearing duties, carrying fish to the nest one by one in the bill. As the chicks grow, they lose their down and assume a mottled white plumage. About 35 days after hatching, still unable to fly, they waddle down to the shore and start swimming out to sea.

One of the many places that guillemots breed is 'Pitsulak City' ('Pitsulak' being the Inuktituk word for guillemot), an island off the coast of northern Quebec with about 200 pairs of nesting guillemots. Here, David and Winifred Cairns and I studied their breeding biology and feeding habits in 1983. David is studying guillemots for several reasons. Because guillemots and auks in general spend most of their time on the sea, they are highly vulnerable to oil spills (oil destroying the insulative value of their feathers so that they die of exposure). The increase in oil drilling in Hudson's Bay poses a potentially serious threat to them. Of all the auks, guillemots are, in many ways, the most convenient to study. Unlike the murres, which often nest in vast, cliff colonies and travel far offshore to feed, Black Guillemots frequently nest on flat ground and fish within two to three miles of the colony ; hence, they are more accessible for chick and feeding studies than their